

NOTES AND DESCRIPTIONS OF GEOMETRIDÆ.

BY W. S. WRIGHT,

SAN DIEGO, CALIFORNIA.

Platæa californiaria pasadenaria new subspecies.

Expanse 34 mm.

Palpi, head, antennæ and thorax as in *P. californiaria* H.-S. Color less deep, being a much browner brown. Lines the same except that the angles are much sharper and deeper; the course of the first line from costa to submedian is wavy rather than indented or toothed as is often the case in *californiaria*. The color is much more evenly laid, the wing surface having a much less speckled appearance. Beneath, the primaries are strongly irrorated along the costa but smooth on the disk or with very faint irrorations, the lines showing through faintly. The secondaries are white, much irrorated, with a strong extra-discal brown line angled on the fold and on vein 2, a submarginal line parallel to the first, both having a whitish shade on the outer side much the same as in *californiaria*, but the angles sharper and the line more evident than in most specimens of the former species. Discal dots rather prominent.

Holotype male, Pasadena, Cal., May 1, 1902.

Allotype female, Pasadena, Cal., April 10, 1902.

Paratypes, 5 males, 4 females, Pasadena, Cal., April and May. In American Museum of Natural History and author's collections.

The differences between *californiaria* and *pasadenaria* are most noticeable when series of the two are placed side by side; they then become quite as prominent as the differences between *californiaria* and *lessaria* Pearsall. What particular conditions about Pasadena that would favor the evolution of a local race of this insect are unknown to me, unless it might be that the climatic and floral conditions are more favorable to the fullest larval development there than at San Diego, Cal., from which place practically all the known specimens of *californiaria* come. *Personaria* Hy. Edwards, the type of which is in the American Museum collection, comes from the high Sierras and is much closer to *californiaria* than is this new form.

Pherne subpunctata vernalaria, new form.*Male*.—Expanse 32 mm.

Primaries: Basal area gray, slightly ochreous. First line narrow, ochreous with dark brownish gray shade beyond, sharply angled to subcostal, thence perpendicular to inner margin, with a very slight curve near the end of the line. Mesial band mouse-gray with a tinge of ochreous. Extra-discal line

ochreous preceded by a dark, brownish shade. Terminal space shaded outward to margin, becoming dark mouse-gray with a slight ochreous tinge. Fringe with glistening white tips. There is a more or less distinct dark spot in the fringe at the end of vein six and two more between vein four and the anal angle. The wing has the appearance of being shaded from light ochreous-gray at the base to dark mouse-gray at the margin.

Secondaries concolorous with, but lighter than the primaries, shading from light at the base to dark at the margin without trace of either spot or line.

Beneath the primaries are rather evenly dark smoky with ochreous along the costa and whitish mottling at the apex. Outer line distinct. Secondaries evenly striated with ochreous and brownish-gray. A very faint line shows beyond the disk.

Female.—Expanse 34 mm.

First line of the primaries exceedingly faint, otherwise as in the male. Mesial band concolorous with the basal area. Extra-discal line same as in the male. Terminal space a little darker and more brown than in the male. Secondaries evenly light ochreous-gray with slightly darker margins. Beneath as in the male.

Holotype male, San Diego, Cal., February 12, 1916 (Wright).

Allotype female, San Diego, Cal., March 20, 1912 (Wright).

Paratypes, 18 males, San Diego, Cal., March and April, in American Museum of Natural History collection, 8 males same data, author's collection; 4 females, San Diego, Cal., March to June, Am. Mus. Nat. Hist. coll. and 4 females, San Diego, Cal., March to May, author's collection.

In determining this form I had before me a series of more than a hundred specimens, all from San Diego and vicinity, and taken on dates representing every month from the middle of February to the latter part of August. The range in color shown was from a pale ochreous in the late specimens, to the dark ochreous-gray of the early specimens, the typical color of *subpunctata* being prevalent from the last of May on, through June, July, and August. It was this fact that led me to describe this form and give it a name. In size *vernalaria* ranges much larger than *subpunctata*, this range corresponding with the range in color. *Subpunctata* also seems to prefer the higher altitudes, being rarely taken in San Diego proper, while *vernalaria* appears to be confined exclusively to the region close to sea level.

Phengommatæa edwardsata berkleyata new subspecies.

Wing expanse 39 mm.

Antennæ scaled outwardly and tinged with brownish, naked and yellowish inwardly. Palpi cream white, darkened on second and third members with brownish.

Male.—Front creamy white, the scales between the antennæ projecting and slightly overhanging. Collar, thorax and patagiæ yellow tinged with brown. Abdomen slightly darker dorsally at the base, fading to cream white on the sides and tip.

Primaries: Basal third yellow washed with brown. A narrow irregular brown line beginning at the inner third on costa courses sharply outward to middle of cell, thence inward to basal fourth of inner margin. An outer brown line begins on costa before the apex and courses very irregularly across the wing to outer third of inner margin. This line is scalloped inwardly with the points on the veins. A large blunt tooth points outward on vein four; just beyond is a bright yellow shade, rather sharply defined and narrow; the space beyond shade is wood-brown with a faint lilac-tinted patch near anal angle. The broad mesial band is covered with brownish-lilac scales, almost obliterating the yellow ground color except a wide brownish-yellow streak on the costa and a rather large brownish-yellow discal spot in the outer end of the cell, which is circled by a fine dark brown line.

Secondaries: Pale pellow, darkening somewhat outwardly. An indefinite brownish spot at outer third of inner margin indicates a cross line which appears very faintly on the veins in the middle area.

Beneath pale yellow, the outer line on the primaries being slightly indicated near the apex.

Female.—Same as male except that the discal spot is obsolete or but faintly indicated by a few brown scales. The outer fourth of secondaries considerably darkened with fuscous and the cross line much stronger than in the male, being easily traced as far as the middle of the wing.

Holotype male, Berkeley, Cal., March 1, 1915. Larva on White Pine (VanDuzee.) In author's collection.

Allotype female, Berkeley, Cal., April 9, 1915 (Graves). In Denton mount. In Univ. Cal. collection.

Paratype, one male in Strecker collection, Field Museum, Chicago, Ill.

This species is much smaller than *edwardsata*, and while it seems to be only a form of that species it may prove to be a valid species instead of a subspecies as here designated. It is apparently confined to the west coast as the types are from Berkeley, near San Francisco, and the paratype is from Washington (Territory).

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